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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,400	06/01/2001	Markus Andreasson	65088/NHZ/ RSM	2646

7590 06/30/2004
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EXAMINER

KIM, AHSHIK

ART UNIT PAPER NUMBER

2876

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/872,400

Applicant(s)

ANDREASSON ET AL.

Examiner

Ahshik Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-16 and 18-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

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DETAILED ACTION

Amendment

1. Receipt is acknowledged of the amendment filed on April 9, 2004. In the amendment
5 claim 17 was canceled, claims 1, 10, 13, 16 were amended, and claims 20-22 were newly added.
Currently, claims 1-16, and 18-22 remain for examination.

Drawings

2. Formal drawings in the file-wrapper are formal drawings, and therefore the request for
10 formal drawings made in previous Office Action is withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

15 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
such that the subject matter as a whole would have been obvious at the time the invention was made to a person
having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the
manner in which the invention was made.

20 4. This application currently names joint inventors. In considering patentability of the
claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various
claims was commonly owned at the time any inventions covered therein were made absent any
evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out
25 the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5 Claims 1, 2, 4, 7-9, 13, and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dwinell et al. (US 6,267,293, hereinafter "Dwinell" previously cited) in view of Robertson et al. (US 6,446,868, hereinafter "Robertson").

Re claims 1, 4, 7-9, 13, and 16-22, Dwinell teaches a barcode scanning system and method for scanning a barcode which consists of a plurality of parallel lines of varying thickness (see abstract) by the steps of capturing a series of barcode images by means of reading device (col. 3, lines 64+), detecting edges of the barcode captured in each image (col. 2, lines 49+; col. 10 8, lines 3+); calculating displacement of other bar/edge based on already captured frame (see abstract); determine whether each image subset is within acceptable threshold (col. 2, lines 49-64; col. 3, lines 53-63) and reconstruct the barcode taking into account calculated offset/displacement (see abstract). Subject matter claimed in newly added claims 20 and 21 can be an attribute of a generic bar code.

15 Dwinell fails to specifically teach or fairly suggest that the code being scanned and reconstructed is a two-dimensional barcode.

Robertson teaches a scanning system decoding two-dimensional code with one-dimensional scanner (see abstract) wherein the collected one-dimensional codes are reconstructed to be the original two-dimensional code (col. 1, lines 50+; col. 3, lines 22+).

20 In view of Robertson's teaching, it would have been obvious to an ordinary skill in the art at the time the invention was made to employ well-known barcode reconstruction method to the teachings of Dwinell in order to predict and successfully decode a two-dimensional barcode.

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Two-dimensional barcode is gaining rapid acceptance due to increased data-carrying capacity. Accordingly, it is the Examiner's view that an embodiment utilizing one-dimensional code can certainly be implemented with two-dimensional barcode. Such modification would have been contemplated by one ordinary skill in the art to carry additional information within the barcode.

5 Re claim 2, although Dwinell does not use the term "pixel", in order to detect edge or edge transition, the reader has the capacity to recognize the darkness (or lack thereof) of the bars being scanned.

6. Claims 3-6, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dwinell et al. (US 6,267,293) as modified by Robertson et al. (US 6,446,868) as applied to claim
10 1 above, and further in view of Klancnik et al. (US 5,550,365, hereinafter "Klancnik") The teachings of Dwinell as modified by Robertson have been discussed above.

Dwinell/Robertson fail to specifically teach or fairly suggest of utilizing histogram for the captured image.

Klancnik teaches a system for decoding barcode symbol (see abstract) wherein the
15 histogram is used to indicate the intensity (or darkness/lightness) of the captured image (col. 24, lines 24+; col. 24+, lines 42+).

In view of Klancnik's teaching, it would have been obvious to an ordinary skill in the art at the time the invention was made to employ well-known use of histogram to the teachings of Dwinell/Robertson in order to accurately reconstruct collected images. Histogram provides the
20 level of darkness and width for the captured image. If the two dimensional code were treated as collection/layer of one-dimensional code as disclosed in Robertson, matching the collected frame relying on the pixel histogram data would be advantageous. Moreover, using histogram, peaks

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and valleys can be identified and located, and the area between the peaks and valleys can also be interpolated, and therefore an obvious expedient.

7. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dwinell et al. (US 6,267,293) as modified by Robertson et al. (US 6,446,868) as applied to claim 13

5 above, and further in view of Sizer, II et al. (US 6,036,086, hereinafter "Sizer"). The teachings of Dwinell as modified by Robertson have been discussed above.

Dwinell/Robertson fail to specifically teach or fairly suggest that the reading/scanning device is a pen type.

Sizer discloses transaction apparatus 110 in the form of mobile telephone comprising a
10 scanning 51 and a scanning pen 52 (col. 3, lines 32+; see abstract).

In view of Size's teaching, it would have been obvious to an ordinary skill in the art at the time the invention was made to incorporate a scanner or scanning pen into a mobile telephone so that a user can conveniently uses his/her mobile phone as a scanning unit. Pen type scanners may not need to be physically built into a phone as shown by Sizer. Rather, pen
15 scanner can be an accessory which can connectably used with a mobile phone. By incorporating a scanning unit into a mobile phone, a consumer may not have to carry several devices for different transactions, and therefore an obvious expedient.

Allowable Subject Matter

20 8. Claim 10 is allowed.

9. The following is a statement of reasons for the indication of allowable subject matter:

Although He et al. discloses error handling in edge transitions or reconstructing the barcode, the

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cited references fail to specifically teach or suggest of disclosing the error function in terms of speed of the reading device as set forth in claim 10.

Response to Arguments

- 5 10. Applicant's remarks filed on April 9, 2004 have been carefully considered, but they are not persuasive.

As indicated in the paragraphs above, it is the Examiner's view that the cited references, taken alone or in combination, teach claimed subject matter disclosed in the instant application. Therefore, the Examiner has made this Office Action final.

10

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

- A shortened statutory period for reply to this final action is set to expire THREE
15 MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37
CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,
20 however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ahshik Kim whose telephone number is (571)272-2393. The

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examiner can normally be reached between the hours of 6:00AM to 3:00PM Monday thru Friday. The fax number directly to the Examiner is (571)273-2393.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (571)272-2398. The fax phone number for this Group is (703)872-9306.

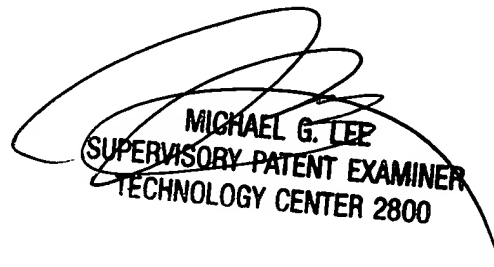
Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [ahshik.kim@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Ahshik Kim
Patent Examiner
Art Unit 2876
June 28, 2004



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